REMARKS

Claim 1 has been amended. Proper support for the amendment to claim1 is found in the specification, at least, at Figs. 4A and 5A and in paragraphs [0027] and [0028] of the specification. Claims 1, 2, 4, 5, 7 and 11-13 are pending. Claim 13 has been withdrawn from consideration. No new matter is presented in this Response. Claims 1, 11, 12 and 13 are the independent claims.

REJECTIONS UNDER 35 U.S.C. §102:

Claims 1-2, 5, 7 and 11-12 are rejected under 35 U.S.C. §102(b) as being anticipated by Mitanaga et al. (U.S. Patent No. 5,923,997).

Regarding the rejection of independent claim 1, it is noted that claim 1 recites a display device with a polysilicon substrate, comprising: a display region; a driving region; a first plurality of thin film transistors, each transistor including a source, gate and drain region, and located in the display region; a second plurality of thin film transistors, each transistor including a source, gate and drain region, and located in the driving region; primary crystal grain boundaries in the polysilicon substrate in the display region and in the driving region; secondary crystal grain boundaries in the polysilicon substrate in the display region and in the driving region; wherein the primary crystal grain boundaries are located within the gate regions of the first plurality of this film transistors and are inclined to a first direction of current flowing from source to drain of each of the first plurality of thin film transistors in the display region at an angle of -30° to 30° and the secondary crystal grain boundaries are located within the gate regions of the first plurality of this film transistors and are inclined to a second direction of current flowing from source to drain of each of the first plurality of thin film transistors in the display region, and wherein the primary crystal grain boundaries are located within the gate regions of the second plurality of this film transistors and are inclined to the second direction of current flowing from source to drain of each of the second plurality of thin film transistors in the driving region at an angle of 30° to 150° and the secondary crystal grain boundaries are located within the gate regions of the second plurality of this film transistors and are inclined to the first direction of the current flowing from source to drain of each of the second plurality of thin film transistors in the driving region.

Mitanaga discloses in column 15, lines 5-46 that the direction of a carrier movement is

perpendicular to the direction of the crystal growth and that the carriers move so as to transverse to the grain boundaries of the crystals shaped in a needle or column. Mitanaga further discloses that with such a construction, a resistance between a source and a drain can be made high and by using this embodiment, it is possible to manufacture an active matrix type liquid crystal device having pixel TFT's with a low leakage current.

Mitanaga does not teach or suggest what constitutes a primary or a secondary grain boundary and in particular, Mitanaga fails to teach or suggest that the primary crystal grain boundaries are located within the gate regions of the first plurality of this film transistors and that the secondary crystal grain boundaries are located within the gate regions of the first plurality of this film transistors, as recited in independent claim 1.

Furthermore, Applicants respectfully note that Mitanaga simply teaches one type of crystal grain boundary. As illustrated in Figs. 5B and 5C, Mitanaga discloses crystals extending laterally 215 in one direction and grain boundaries 216 located between the crystals (column 14, lines 60-67 and column 15, lines 1-23). In other words, grain boundaries 216 are simply one type of crystal grain boundary. Therefore, Mitanaga fails to teach or suggest a second type of grain boundary located in the channel region or in any of the other regions. The reason for forming only one type of grain is that Mitanaga uses a method different than then the one of the present invention (column 2, lines 34-38).

Accordingly, Applicants respectfully assert that the rejection of claim 1 under 35 U.S.C. § 102(b) should be withdrawn because Mitanaga fails to teach or suggest each feature of independent claim 1.

Regarding the rejection of independent claims 11 and 12, it is noted that these claims recite some substantially similar features as claim 1. Thus, the rejections of these claims are also traversed for substantially the same reasons set forth above.

Furthermore, Applicants respectfully assert that the rejection of dependent claims 2, 5 and 7 under 35 U.S.C. §102(b) should be withdrawn at least because of their dependency from claim 1 and the reasons set forth above, and because the dependent claims include additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claims 2, 5 and 7 also distinguish over the prior art.

REJECTIONS UNDER 35 U.S.C. §103:

Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mitanaga et al. (U.S. Patent No. 5,923,997).

Initially it is noted that claim 4 depends from claim 1 and as noted above, Mitanaga fails to teach or suggest the novel features of independent claim 1.

Accordingly, Applicants respectfully assert that the rejection of dependent claim 4 under 35 U.S.C. §103(a) should be withdrawn at least because of its dependency from claim 1, and because the dependent claim includes additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claim 4 also distinguishes over the prior art.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN, MCEWEN & BUI, LLP

Date: 11/12/08

By: Douglas Rodriguez
Douglas X. Rodriguez
Registration No. 47,269

1400 Eye St., N.W., Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510